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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,825	04/06/2006	Atsushi Takahashi	07200/077001	3678

22511 7590 03/18/2009

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EXAMINER	
BLUM, DAVID S	

ART UNIT	PAPER NUMBER
2813	

NOTIFICATION DATE	DELIVERY MODE
03/18/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/574,825	TAKAHASHI ET AL.	
	Examiner	Art Unit	
	DAVID S. BLUM	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *1-14 and 21-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-38* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/6/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This action is in response to the election filed 8/25/08.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 15-20 in the reply filed on 8/25/09 is acknowledged.

2. Claims 1-14 and 21-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/25/08.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (US 20050017373A1) in view of Amagai (US006232661B1).

Nishikawa teaches the device of claims 15-18 except for explicitly teaching the chip being adhered to a base film is an IC Chip.

Regarding claim 15, Nishikawa teaches an adhesive material (6) adhered to the back surface of an IC chip (electronic components 30 and 40) and on film 1 (resin substrate 1). Nishikawa refers to 30 and 40 as electronic components, which is a broad term and may include both single devices, and integrated circuits (IC). Amagai teaches semiconductor chips being adhered in a BGA package with multiple connections (figure 2), clearly an IC chip. The chip is adhered to a polymide film (column 5 lines 14-15).

It would be obvious to one skilled in the requisite art at the time of the invention to modify Nishikawa by including an IC chip as an electronic component to be adhered to a film as taught by Amagai.

The adhesive used by Nishikawa is a thermosetting resin (paragraph 0042, heat setting paragraph 0045) with a viscosity of less than 20000PAs (paragraph 0049, greater than 600 Pas may cause problems) at temperatures equal to or less than the curing-reaction starting temperature. As the setting temperatures are elevated, the adhesive is placed prior to the setting reaction taking place.

Regarding claim 16, the viscosity is 100 Pas or more (paragraph 0049, greater than 600 Pas may cause problems, thus Nishikawa is teaching less than 600, which reads on 100 or more) at temperatures equal to or less than the curing-reaction starting temperature.

Regarding claim 17, the curing temperature starts a temperature in the range of 80-120 degrees C. (paragraph 0043, <100 degrees, paragraph 0044 80-100 degrees).

Regarding claim 18, Nishikawa teaches a thermosetting adhesive paste. Amagai teaches making an adhesive film (tape) from the epoxy resin (column 6 lines 55-60). It would be obvious to one skilled in the requisite art at the time of the invention to modify Nishikawa by using the thermosetting resin to form a film from the resin as an alternative application method.

5. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (US 20050017373A1) in view of Amagai (US006232661B1) and in further view of Tuskahara (US20070200217).

Nishikawa and Amagai teach the device of claims 19-20 except for the size of the chip.

Regarding claim 19, both Nishikawa and Amagai are silent as to the thickness of the chip. Tuskahara teaches a typical thickness of 0.180 mm (180 micrometers, paragraph 0187).
It would be obvious to one skilled in the requisite art at the time of the invention to modify Nishikawa and Amagai to include typical chip sizes as taught by Tuskahara.

Regarding claim 20, Amagai teaches a typical adhesive thickness of 150-300 micrometers, a range that would allow for the adhesive and the chip to have substantially the same size.

6. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyama (JP 2002-265888, abstract) in view of Amagai (US006232661B1).

Tomiyama teaches the device of claims 15-18 except for explicitly teaching the chip being adhered to a base film is an IC Chip.

Regarding claim 15, Tomiyama teaches an adhesive film adhered to the back surface of semiconductor chip and on a member. The adhesive requires temperature to set, thus is thermosetting. Semiconductor chip is a broad term and may include both single devices, and integrated circuits (IC). Amagai teaches semiconductor chips being adhered in a BGA package with multiple connections (figure 2), clearly an IC chip. The chip is adhered to a polymide film (column 5 lines 14-15) using thermosetting resin.

It would be obvious to one skilled in the requisite art at the time of the invention to modify Tomiyama by including an IC chip as an electronic component to be adhered to a film as taught by Amagai.

The adhesive used by Tomiyama has a viscosity of less than 20000PAs (104 Pas) at temperatures equal to or less than the curing-reaction starting temperature. As the setting temperatures are elevated (less than or equal to 100 degrees C, the adhesive is placed prior to the setting reaction taking place.

Regarding claim 16, the viscosity is 104 Pas or more.

Regarding claim 17, the curing temperature starts a temperature in the range less than 100 degrees.

Regarding claim 18, Tomiyama is silent as to the makeup of the material. Amagai teaches making an adhesive film (tape) from the epoxy resin (column 6 lines 55-60). It would be obvious to one skilled in the requisite art at the time of the invention to modify Tomiyama by using the thermosetting resin to form a film from the resin as an alternative application method.

7. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyama (JP 2002-265888, abstract) in view of Amagai (US006232661B1) and in further view of Tuskahara (US20070200217).

Tomiyama and Amagai teach the device of claims 19-20 except for the size of the chip.

Regarding claim 19, both Tomiyama and Amagai are silent as to the thickness of the chip. Tuskahara teaches a typical thickness of 0.180 mm (180 micrometers, paragraph 0187).

It would be obvious to one skilled in the requisite art at the time of the invention to modify Tomiyama and Amagai to include typical chip sizes as taught by Tuskahara.

Regarding claim 20, Amagai teaches a typical adhesive thickness of 150-300 micrometers, a range that would allow for the adhesive and the chip to have substantially the same size.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (571)-272-1687) and e-mail address is David.blum@USPTO.gov .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Landau, can be reached at (571)-272-1731. Our facsimile number all patent correspondence to be entered into an application is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David S Blum/
Primary Examiner, Art Unit 2813
March 16, 2009